

PURWANCHAL UNIVERSITY

VII SEMESTER FINAL EXAMINATION-2004

LEVEL : B. E. (Civil)

SUBJECT: BEG462CI, Rural Infrastructure Engineering.

Full Marks: 80

TIME: 03:00 hrs

Pass marks: 32

Candidates are required to give their answers in their own words as far as practicable.

All questions carry equal marks. The marks allotted for each sub-question is specified along its side.

Attempt any FIVE questions.

Q. [1] [a] What are the reform initiatives in the context of enhancing capacity for decentralized governance and poverty alleviation? Write down the issues and challenges for decentralization process. [8]

[b] What are the characteristics of communities in Nepal? Write down the importance of Community Participation in rural infrastructure development. [8]

Q. [2] [a] Show a general sketch of spring protection works in the area of diverse sources. What is the general guideline for the design of rural water supply? Explain it with an example. [8]

[b] What is rural irrigation system? Write down the objectives of hill irrigation systems. Also, mention different problems to be faced while implementing the rural irrigation scheme. [8]

Q. [3] [a] What are different types of terraces? Write down the procedure of terrace improvement. [8]

[b] Justify the necessity of a conservation pond. Write down the parameters that, should be considered in the design of a conservation pond. [8]

Q. [4] [a] What are different bodies to be involved in the network planning of rural infrastructures? Define rural road. Write down the major steps in the planning process of rural infrastructures. [8]

[b] You are assigned to finalize an alignment of a rural road. What are the factors that you would consider for this purpose? Explain maintenance and operation procedure of a rural road. [8]

Q. [5] [a] Mention different stages and phases of rural road construction. Write down the advantages and disadvantages of phase construction of rural road. [8]

[b] Write down different elements that will be incorporated in the construction of rural infrastructures. Why labour based technology is appropriate for Nepalese condition? [8]

[6] Write short notes on (any FOUR): [4x4= 16]

[a] Practical consideration construction for retaining wall construction.

[b] Effective financing system

[c] Preservation of fragile mountain environment

[d] Rural access roads

[e] Technology and community

PURWANCHAL UNIVERSITY

VII SEMESTER FINAL EXAMINATION-2005

LEVEL : B. E. (Civil)

SUBJECT: BEG462CI, Rural Infrastructure Engineering.

Full Marks: 80

TIME: 03:00 hrs

Pass marks: 32

Candidates are required to give their answers in their own words as far as practicable.

All questions carry equal marks. The marks allotted for each sub-question is specified along its side.

Attempt any FIVE questions.

Q. [1] [a] what are the characteristic of communications in Nepal? Explain the importance of community participation in rural infrastructure development. [8]

[b] Explain the current government decentralization policy on execution of rural infrastructure. [8]

Q. [2] [a] Explain spring protection works in the area of diverse sources with a general sketch. [8]

Explain how a community water supply scheme is selected and implemented?

[b] Explain the different problems to be faced while implementing the rural irrigation scheme and remedial measures for them. Also explain the different types of maintenance usually done in irrigation projects. [8]

Q. [3] [a] What are different types of terraces? Explain the procedure of terrace improvement works. [8]

[b] Justify the necessity of a.c conservation pond in a country like Nepal. Discuss the parameters that should be considered in the design of a conservation pond. [8]

Q. [4] [a] Define rural road. How do you classify it according to Nepal Rural Road Standard - 2055. Design the trail improvement works for the following data. [8]

Slope of the trail (θ) = 35°

Length of the trail (L) = 45m

[b] What are different bodies to be involved in network planning of rural infrastructure? Write down the major steps in the planning process of rural . infrastructures. [8]

Q. [5] [a] Explain different stages and phases of rural road construction. Also explain the different type of retaining walls with sketches.

[b] What do you mean by labour based technology . labour intensive technology? What are the men and demerits of labour based technology. Explain why labour based technology is appropriate for Nepalese context? [8]

Q. [6] **Write short notes on (any FOUR):** [4x4=16]

[a] Effective financing system

[b] Preservation of fragile mountain environment

[c] Low cost pavement design

[d] Maintenance of rural roads

[e] Practical consideration for the retaining wall construction.

PURWANCHAL UNIVERSITY

VII SEMESTER FINAL EXAMINATION-2006

LEVEL : B. E. (Civil)

SUBJECT: BEG462CI, Rural Infrastructure Engineering.

Full Marks: 80

TIME: 03:00 hrs

Pass marks: 32

Candidates are required to give their answers in their own words as far as practicable.

All questions carry equal marks. The marks allotted for each sub-question is specified along its side.

Attempt any FIVE questions.

Q. [1] [a] what are the characteristic of communications in Nepal? Explain the importance of community participation in rural infrastructure development.

[8]

Q. [1] [a] What are Rural Infrastructures? Describe the major steps in Participatory Rural Infrastructure Network Planning.

[8]

[b] Define Labour Based Technology. What are the strengths and Limitations of this Technology?

[8]

Q. [2] [a] What are the environmental threats of mountain rural development? Describe in short die major measuring tools to preserve the fragile mountain environment.

[8]

[b] With a neat sketch of Layout plan describe various components of Gravity Water Supply system.

[8]

Q. [3] [a] What do you mean by Green Road? Design. Trial Improvement works for the Trail length of 35m and slope 25°

[8]

[b] Justify the necessity of a conservation pond in a country like Nepal. With suitable cross section sketches describe the different phases of road construction.

[8]

Q. [4] [a] What are the characteristics of farmer managed irrigation system?

[8]

[b] What are different types of terraces? Explain the importance of community participation in rural infrastructure development.

[8]

Q. [5] What are the flexible retaining and cross drainage structures?

Check the safety of given section of dry retaining structure against sliding and against overturning. Top width = 0.75 m, Base width = 3.5 m, overall height = 5 m, average Length = 14.49 m, Take unit weight of soil 2.36 t/m³, unit weight of wall 2.1 t/m³, angle of repose 35.5 degrees, safe bearing capacity 2.5 kg/cm², assume the factor μ for weathered rock type soil. 0.6.

[16]

Q. [6] **Write short notes on (any FOUR):** [4×4=16]

[a] Bio-Engineering.

[b] Woman and development

[c] Effective Financing System

[d] Mass Balancing

[e] Spring Intake

[f] IEE and EIA study

PURWANCHAL UNIVERSITY

VII SEMESTER FINAL EXAMINATION-2007

LEVEL : B. E. (Civil)

SUBJECT: BEG462CI, Rural Infrastructure Engineering.

Full Marks: 80

TIME: 03:00 hrs

Pass marks: 32

Candidates are required to give their answers in their own words as far as practicable.

All questions carry equal marks. The marks allotted for each sub-question is specified along its side.

Attempt any FIVE questions.

Q. [1] [a] what are the characteristic of communications in Nepal? Explain the importance of community participation in rural infrastructure development.

Q. [1] [a] Define Infrastructure. What are the major steps in the planning process of Rural Infrastructure? [8]

[b] What are the objectives of Participatory Rural Appraisal? Discuss the role of woman in Rural Infrastructure Development. [8]

Q. [2] [a] What are the advantage and Limitation of Labour Based Technology? [8]

[b] What is Mass Balancing approach ? Discuss the importance of Bioengineering in road construction under "Green Road" concept. [8]

Q. [3] [a] Write a brief note on Environmental Study and Rural Infrastructure Development. [8]

[b] Define Rural Roads, Design the trail improvement works for the slope Trial (θ) = 30° and Trail Length (L) = 30m. [8]

Q. [4] [a] What are different components of community Gravity Water Supply project? Sketch a neat layout plan and show all the components. [8]

[b] Discuss the importance of Terrance Improvement. Explain different phases and stages of Rural road construction. [8]

Q. [5] Describe different types of retaining structures with neat sketches. Check the safety of given section of dry retaining structure against sliding and against overturning. Top width = 0.8 m, Base width = 4.0 m, overall height = 5.3 m, average Length = 14.49 m, Take unit weight of soil 2.36t/m³, unit weight of wall 2.1t/m³, angle of repose 35.5 degrees, safe bearing capacity 2.5 kg/cm², assume the factor [μ] for weathered rock type soil. 0.6. [16]

Q. [6] Write short notes on (any FOUR): [4x4=16]

[a] Decentralization policy

[b] Spring intake protection

[c] Maintenance of Irrigation canals

[d] Effective Financing System

[e] Conservation ponds .

[f] Proper water management